



# Cariboo Regional Skills Competition

Scope Document

*Welding (Secondary) (2024)*

Thompson Rivers University  
March 1, 2024



## WELDING (Secondary) (2024)

### **Purpose of the Challenge:**

- To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of fabrication and welding.
- To enable students to demonstrate their knowledge of blueprint reading, welding and Oxy-fuel cutting principles.

### **Skills & Knowledge to be tested: Students will be expected to:**

- Start and use the welding equipment supplied by the organizer, following the appropriate safety regulations.
- Check that the dimensions of the materials are in accordance with the material list and the prints/drawings.
- Prepare the materials
- Assemble the materials in accordance with the drawings provided.
- Utilize their practical skills in drawing interpretation, Oxy-fuel cutting, fitting and welding.
- Demonstrate an ability to read blueprints and interpret welding symbols.
- Classify and identify electrodes.

### **Safety Requirements:**

Safety awareness/requirements will be maintained within WorksafeBC standards at all times. A contestant will not be allowed to compete without the safety equipment noted in this scope document.

### **Equipment / Tools / Materials:**

#### **Supplied by Committee:**

- All welding and cutting equipment, testing materials and consumables
- All instructions and procedure sheets with drawings

#### **Supplied by Contestant:**

##### **Clothing/PPE:**

- Hat, leather coat or apron, leather gauntlet welding gloves
- Welding helmet complete with #10, #11 or #12 filter plate/lens and protective cover plate
- CSA Approved steel-toed boots,
- Cutting goggles, #4 or #5 lens,



- Safety glasses
- Hearing and/or ear protection

### **Tools**

- Tool box
- Lead pencil and pen
- Soap stone
- Combination square
- Minimum 10-foot (3.1 meter) steel tape measure
- 16-ounce ball peen hammer
- Centre punch
- Cold chisel
- 10-inch adjustable wrench
- 10-inch vice grips
- 6-inch side cutting pliers or diagonal cutting pliers
- 6 – 10-inch dividers
- Chipping hammer
- Carbon steel wire brush
- Oxy-fuel tip cleaner
- Oxy-fuel striker

Note: Should the competitors bring any other equipment or tools, they must be approved by the technical chair at contest time.

### **Judging / Distribution of Marks:**

#### **Safety & Professionalism - Evaluated during work 10%**

Does the student:

- Wear suitable clothing
- Have personal safety equipment
- Have adequate hand tools
- Wear eye protection at all times
- Wear ear protection when required
- Employ safe oxy-fuel cutting practices
- Employ safe arc welding practices
- Employ good job planning
- Employ good layout technique

**Flame Cutting 20%**

- Are edges sharp
- Are edges square
- Is there an absence of nicks and gouges
- Is there an absence of drag lines

**Quality of SMAW 25%**

- Are weld sizes adequate
- Are weld profiles acceptable ie. concave/convex
- Are welds correctly placed
- No visible undercut
- Is good fusion evident
- Is welding consistent
- Is all spatter removed
- Conforms to drawings

**Quality of GMAW 25%**

- Are weld sizes adequate
- Are weld profiles acceptable ie. concave/convex
- Are welds correctly placed
- No visible undercut
- Is good fusion evident
- Is welding consistent
- Is all spatter removed
- Conforms to drawings

**General Workmanship & Accuracy 20%**

- There should be no distortion evident
- Are finished dimensions accurate
- Are the welds correctly placed
- Is the project as drawn on prints

**Technical Committee:**

Technical Chair: Larry Franzen

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Members: John Sutton